Carotid Stenting versus Endarterectomy : The Evidence is Evident. Or is it?

Vikatmaa, Pirkka

2019-10

Vikatmaa , P 2019 , ' Carotid Stenting versus Endarterectomy : The Evidence is Evident. Or is it? ' , European Journal of Vascular and Endovascular Surgery , vol. 58 , no. 4 , pp. 494-494 . https://doi.org/10.1016/j.ejvs.2019.07.003

http://hdl.handle.net/10138/320957
https://doi.org/10.1016/j.ejvs.2019.07.003

publishedVersion

INVITED COMMENTARY

Carotid Stenting versus Endarterectomy: The Evidence is Evident. Or is it?

Pirkka Vikatmaa

Helsinki University Hospital, Department of Vascular Surgery, Helsinki, Finland

The Leicester Vascular Institute team has done it again. A comprehensive summary of massive amounts of available randomised controlled trial (RCT) data. The question is how carotid artery stenting (CAS) compares to carotid endarterectomy (CEA) in both asymptomatic ($n = 3467$) and symptomatic ($n = 5797$) patients.[1] Typically in surgery, the problem is a lack of good quality randomised studies. In carotid disease, the problem is how to master and interpret the abundant data available. Important deficiencies like the lack of operator and patient blinding, and no randomisation over time, leave room to question some results. Indeed, internationally, the same data are interpreted in various ways.[2,3]

Regarding symptoms, some refuse to intervene when the patient is asymptomatic, whereas some encourage their asymptomatic patients to be treated and end up in a situation where most of their patients have a limited theoretical benefit from the procedure.[4] Until relatively recently, the durability of CAS has been questioned. Today, and once more underlined by the authors, it seems accepted that if the patient does not get a peri-procedural complication, CAS is a durable procedure despite some restenosis, until at least 10 years, which is long enough for many of our patients.

Compared with many other open surgical procedures CEA may be seen as a fairly small and straightforward procedure. However, CAS with just a puncture to the groin has obvious benefits. Thus, the justification to continue CEA arises from a smaller peri-procedural risk of major complications in the very patients for whom invasive treatment is most beneficial: symptomatic patients with recent (hemispheric) symptoms. Batchelder *et al.*[1] have once more shown that the operators continuing to perform CAS for risky patients have to be certain that they can perform it safer than in RCTs. Many claim to achieve that, but few have actually demonstrated it in an unbiased manner for a significant number of patients.

All who have seen many carotid plaques know that the variation in them is an important factor and one that has probably had an impact on the results of the RCTs. Some plaques host a soft liquid core that may run freely into the lumen irrespective of the size of the holes in the stent. Others seem solid and stable. When operating soon after the index event we frequently encounter fresh, unstable thrombi and feel that any manipulation could dislodge it, making clamping the artery prior to manipulation an appealing solution. Occasionally, fresh looking thrombus is present in asymptomatic patients as well, adding to the confusion.

A hot topic that was not addressed in this review owing to a lack of RCTs is transcarotid artery revascularisation (TCAR) flow reversal stenting, which is thought to overcome many of the embolic problems. TCAR has shown superior results to transfemoral CAS in mainly asymptomatic non-randomised cohorts and a 3.7% transient ischaemic attack/stroke/death rate in symptomatic ones.[5] It should be remembered that there is a strong economic interest in selling the expensive device and large scale unbiased studies with CEA as an option should be performed prior to routine adoption of this appealing technique.

For me, the most important question remains: What should we do in order to prevent as many strokes as possible? The answer is simple: do not touch the patients that do not need a procedure, intervene promptly when there is a clear need, and perform the procedure without complications and with a long lasting result. Batchelder *et al.*[1] have made the answers to these questions a bit more clear and give an answer to many more detailed questions, for which we need to thank them. However, many questions remain, before which we need to remain humble, read the details, and stick to practices that benefit our patients and not our egos or bank accounts.

REFERENCES

1 Batchelder A, Saratzis A, Naylor AR. Overview of primary and secondary analyses from 20 randomised controlled trials comparing carotid artery stenting with carotid endarterectomy. *Eur J Vasc Endovasc Surg* 2019;**58**:479–93.

2 Vikatmaa P, Mitchell D, Jensen LP, Beiles B, Björck M, Halbakken E, et al. Variation in clinical practice in carotid surgery in nine countries 2005–2010. Lessons from VASCUNET and recommendations for the future of national clinical audit. *Eur J Vasc Endovasc Surg* 2012;**44**:11–7.

3 Venermo M, Wang G, Sedrakyan A, Mao J, Eldrup N, DeMartino R, et al. Editor's Choice – carotid stenosis treatment: variation in international practice patterns. *Eur J Vasc Endovasc Surg* 2017;**53**:511–9.

4 Aro E, Ijäs P, Vikatmaa L, Soinne L, Sund R, Venermo M, et al. The efficacy of carotid surgery by subgroups: the concept of stroke prevention potential. *Eur J Vasc Endovasc Surg* 2019;**58**:5–12.

5 Malas MB, Dakour-Aridi H, Wang GJ, Kashyap VS, Motaganahalli RL, Eldrup-Jorgensen J, et al. Transcarotid artery revascularization versus transfemoral carotid artery stenting in the society for vascular surgery vascular quality initiative. *J Vasc Surg* 2019;**69**:92–103.

DOI of original article: https://doi.org/10.1016/j.ejvs.2019.06.003

E-mail address: pirkka.vikatmaa@hus.fi (Pirkka Vikatmaa).

https://doi.org/10.1016/j.ejvs.2019.07.003